

CLAIMS

1. A system for providing assistance in regenerating depollution means (1) associated with oxidation catalyst-forming means (2) integrated in an exhaust line (3) of a motor vehicle diesel engine (4), and in which the engine (4) is associated with common rail means (7) for feeding fuel to the cylinders of the engine and adapted, at constant torque, to implement a strategy of regeneration by injecting fuel into the cylinders in at least one post-injection, the system being characterized in that it comprises:
 - means (8) for detecting a request (req.RG) for regeneration, and thus for post-injection;
 - means (9, 10) for detecting a state in which the vehicle accelerator pedal is being raised or a stage in which the vehicle engine is idling;
 - acquisition means (11) for acquiring the temperature downstream from the catalyst-forming means (2);
 - means (8) for responding to said temperature to determine a maximum duration of post-injection application during stages in which the engine is returning to idling as a result of the accelerator pedal being raised and stages during which the engine is idling; and
 - means (7, 8) for immediately interrupting the or each post-injection if the duration of post-injection utilization reaches the predetermined maximum duration of application during a stage of returning to idling, and/or for progressively reducing the or each post-injection when the duration of post-injection utilization reaches the predetermined maximum duration of application during a stage of the engine idling.
- 35 2. A system according to claim 1, characterized in that the reduction means (7, 8) are adapted to reduce the or

each post-injection in application of a calibratable slope (20).

3. A system according to claim 1 or claim 2,
5 characterized in that the depollution means (1) comprise a particle filter.

4. A system according to claim 1, 2, or 3, characterized
10 in that the depollution means (1) comprise a NOx trap.

15 5. A system according to any preceding claim,
characterized in that the fuel includes an additive for being deposited together with the particles with which it is mixed on the depollution means (1) in order to facilitate regeneration thereof.

20 6. A system according to any one of claims 1 to 4,
characterized in that the fuel includes an additive that forms a NOx trap.

7. A system according to any preceding claim,
characterized in that the engine is associated with a turbocharger (5, 6).